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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :  
NATHANIEL KOLMES : EXAMINER: HURLEY, SHAUN  
SERIAL NO: 10/693,971 :  
FILED: OCTOBER 28, 2003 : GROUP ART UNIT: 3765  
FOR: GLASS-WIRE CORE COMPOSITE :  
FIBER AND ARTICLES MADE  
THEREFROM

AMENDED APPEAL BRIEF

COMMISSIONER FOR PATENTS  
ALEXANDRIA, VIRGINIA 22313

SIR:

This is an amended Appeal Brief in response to the Notice dated March 2, 2009.

This is an appeal of the rejection dated December 14, 2005 of Claims 1-28, which have been twice-rejected. A Notice of Appeal was filed June 14, 2006.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Supreme Elastic Corporation, having an address at 325 Spencer Road, Conover, North Carolina 28613.

## II. RELATED APPEALS AND INTERFERENCES

Appellant, Appellant's legal representative and the assignee are aware of no appeals or interferences which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

## III. STATUS OF THE CLAIMS

Claims 1-28, all the claims in the application, stand rejected and are herein appealed.

## IV. STATUS OF THE AMENDMENTS

A response to the Final Action dated December 14, 2005 was filed June 14, 2006. No amendments were made in that response, and the response has been entered by the Examiner.

## V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention relates to a composite cut-resistant yarn, that in particular contains no high-performance yarns, but retains high cut resistance, and a fabric formed from such composite yarn. The composite yarn comprises a core with at least one strand of fiberglass and at least one strand of wire which can be arranged in parallel or twisted with one another, and wherein only the core of the yarn contains a metal component (Claim 1, page 2, line 29 – page 3, line 2; page 4, lines 16-21). The one or more wrap layers of the present invention are made of non-high performance fibers (page 3, lines 4-5; page 4, lines 16-21). Further, the core can optionally contain one or more strands of non-high performance fibers which may be either parallel with the fiberglass and wire strands or co-twisted with either or both of the fiberglass and wire strands (page 5, lines 20-24). The one or more wrap

layers are made of non-metallic, non-high performance fibers (page 6, lines 19-20), which are preferably selected from polyester, polyester/cotton blends, various types of nylon, wool or cotton (page 6, lines 21-23; with acrylic being excluded per the claims as now in the case). Appellant has found that by using the construction of the present invention to prepare a composite cut-resistant yarn, one obtains comparable cut resistance to composite yarns containing much more expensive high-performance yarns (such as aramids or extended chain polyolefins, etc; which can give stiff yarn constructions and fabrics resulting in loss of tactile sense and feedback, a factor that can be extremely important to workers in industries such as meat packing; see page 1, lines 26-30), while maintaining good feel and flexibility, and without a wrapped wire component (page 2, lines 19-22).

The present invention further relates to a fabric formed primarily of the composite cut-resistant yarn of the present invention (see claim 14). The cut-resistant yarn of the present invention can be used to prepare cut and abrasion resistant fabrics, which in turn can be used to prepare cut resistant articles and garments (see page 12, lines 1-2 of the specification). Further, the types of articles/garments include, but are not limited to, arm shields, aprons or jackets, as well as sporting wear (see page 12, lines 5-8). One particularly preferred embodiment is to form the present invention yarn into a fabric which is used to prepare a glove that is cut and abrasion resistant (see page 12, lines 4-5 and Fig. 5).

#### VI. GROUNDS OF REJECTION

Claims 1 and 14, and as a result, their dependent claims, are rejected under 35 U.S.C. 112, first paragraph. (these are the exact words stated in the Office Action of December 14, 2005 and are equivalent to Claims 1-28 being rejected under 35 U.S.C. 112, first paragraph).

Claims 1-28 stand rejected under 35 U.S.C. 103(a) over Chakravarti, U.S. Patent 6,260,344.

## VII. ARGUMENT

### The rejection under 35 U.S.C. 112, first paragraph

In making the rejection under 35 U.S.C. 112, first paragraph, the Examiner has misapplied the law of new matter and as such is inappropriately preventing Applicant from properly claiming his invention.

The Examiner has rejected “Claims 1 and 14, and as a result, their dependent claims” under 35 U.S.C. 112, first paragraph as purportedly failing to comply with the written description requirement, on the basis that the proviso added in the amendment of September 29, 2005, that “the composite cut-resistant yarn contains no acrylic fiber” is considered new matter. The Examiner has stated that because the present application did not teach such an exclusion of acrylic fiber and teaches acrylic fiber as one suitable fiber for use in the invention, the change from inclusion to exclusion is new matter. However, the case law clearly permits such exclusionary amendments, particularly where, as here, the specification sets forth and supports a broader genus, and provides multiple examples of the claimed yarns with none of the examples containing any acrylic fiber.

Any negative limitation or exclusionary proviso must have basis in the original disclosure. Notably, if alternative elements are positively recited in the specification, *they may be explicitly excluded in the claims*. See *In re Johnson*, 558 F.2d 1008, 1019, 194 USPQ 187, 196 (CCPA 1977) in which the court stated:

“The notion that one who fully discloses, and teaches those skilled in the art how to make and use, a genus and numerous species therewithin, has somehow failed

to disclose, and teach those skilled in the art how to make and use, that genus minus two of those species, and has thus failed to satisfy the requirements of §112, first paragraph, appears to result from a *hypertechnical application of legalistic prose relating to that provision of the statute*. All that happened here is that appellants narrowed their claims to avoid having them read on a lost interference count.

The board indicated that “it is manifestly immaterial” why appellants limited their claims. Though it is true that insufficiency under §112 could not be cured by citing the causes for such insufficiency, it is not true that the factual context out of which the question under §112 arises is immaterial. Quite the contrary. Here, as we hold on the facts of this case, **the “written description” in the 1963 specification supported the claims in the absence of the limitation, and that specification, having described the whole, necessarily described the part remaining. The facts of the prosecution are properly presented and relied on, under these circumstances, to indicate that appellants are merely excising the invention of another, to which they are not entitled, and are not creating an “artificial subgenus” or claiming “new matter.”**” (emphasis added)

This is the case in the present application. Appellant did in fact recite acrylic as a possible embodiment of fiber useable in the present application composite yarns, in particular in the specification at page 6, lines 19-23 and claims 5-6 and 18-19 as originally presented. However, Appellant has now excluded that type of fiber using a negative limitation, in order to define around the prior art. This is specifically permitted as indicated by *In re Johnson*. Further, as in *In re Johnson*, Appellant provided multiple examples of the yarn construction of the invention within the specification at pages 9-10. Interesting, **none of these examples contains any acrylic fiber**. As held by the court in *Daniels and McCombie v. Daum and Clark*, 214 U.S.P.Q. 911 (B.P.A.I., 1982):

“We find that the facts in this case more nearly resemble those in the cases of *In re Johnson*, 558 F.2d 1008, 194 USPQ 187 (CCPA 1977) and *In re Petering*, 49 CCPA 993, 301 F.2d 676, 133 USPQ 275 (CCPA 1962) in which the court found that the generic disclosure coupled with the examples was sufficient to describe a subgenus.”

Appellant is permitted to limit the claims to less than the whole originally disclosed, *particularly where, as in this case, the element being excluded was specifically recited as*

*an alternative in the specification, and numerous examples were provided supporting the subgenus.*

Accordingly, since the Examiner has clearly misapplied the law regarding new matter, and the current negative limitation is specifically permitted by the above noted case law and the facts of this case, the rejection under 35 U.S.C. 112, first paragraph must be reversed.

The rejection under 35 U.S.C. 103

Once the rejection under 35 U.S.C. 112, first paragraph is reversed and the claims as amended are permitted to stand, the rejection under 35 U.S.C. 103 over Chakravarti likewise must fall.

The claims stand rejected under 35 U.S.C. 103 over Chakravarti, U.S. Patent 6,260,344. Chakravarti discloses a cut resistant antimicrobial yarn and apparel made therefrom. In particular, the antimicrobial character of Chakravarti's yarns are provided by the required presence of antimicrobially treated acrylic fibers, forming the outer layer of the references antimicrobial yarn. (see Abstract and specification at column 1, lines 31-35). Chakravarti requires that the yarn contain acrylic fiber in its broadest aspects (see column 1, lines 31-32). It is the acrylic yarn that provides the antimicrobial properties of Chakravarti's yarn due to its treatment with an antimicrobial chemical.

However, the present invention composite cut-resistant yarn, as claimed, **cannot contain acrylic**. Additionally, Appellant notes that while antimicrobial yarns are included as a preferred embodiment of the present invention, antimicrobial yarn is not required in the present invention.

Further, there is absolutely nothing within Chakravarti to suggest using anything other than acrylic fiber to provide their yarns with antimicrobial properties. The Examiner has stated that it would be “obvious to one of ordinary skill in the art, at the time the invention was made, to incorporate different antimicrobial treated fibers in the yarn of Chakravarti, so as to enable its use in different environments.” However, the Examiner cannot build a *prima facie* case by suggesting that the reference be altered directly counter to its explicit teachings, as this would destroy the inventive aspects of Chakravarti’s disclosure. In particular, Chakravarti not only relies on the acrylic fibers for providing antimicrobial properties, but also indicates at column 2, line 66 to column 3, line 6 that “[t]he use of acrylic fibers for knitting gloves result in a softer and more comfortable fitting glove....It is believed that by using the antimicrobial treated spun acrylic fiber as wraps instead of as a core provides a softer glove with improved gripping ability.”

Additionally, the Examiner has provided absolutely nothing of record to suggest such a modification. Without some clear suggestion in the art to so drastically modify Chakravarti, the Examiner’s position is unsustainable. Even if there were a reference to suggest such an alternative antimicrobial yarn, the Examiner cannot combine the teachings of one reference to destroy the explicit teachings of another reference in order to make out a *prima facie* case of obviousness. Accordingly, Chakravarti cannot render the present invention obvious by itself, and given the current claims which forbid the presence of acrylic fiber (a specifically required element of Chakravarti), there is no reference that the Examiner can combine with Chakravarti to render the present invention obvious. As such, the rejection should be reversed.

For all the above reasons, it is respectfully requested that the rejection under 35 U.S.C. 103 over Chakravarti ('344) be REVERSED.



VIII. CONCLUSION

For the above reasons, it is respectfully requested that all the rejections still pending in the Final Office Action be REVERSED.

Customer Number

**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 06/04)

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.

A handwritten signature in black ink, appearing to read "J. Derek Mason", written over a horizontal line.

J. Derek Mason, Ph.D.  
Registration No. 35,270

CLAIMS APPENDIX

1. (Previously Presented) A composite cut-resistant yarn comprising:

a. a core comprising at least one fiberglass strand and at least one wire strand of diameter sufficient to provide cut resistance, wherein said at least one fiberglass strand and said at least one wire strand are parallel to one another or twisted about one another and wherein only the core of the yarn contains metal; and

b. at least one non-metallic non-high performance fiber cover strand wrapped around said core in a first direction,

wherein the composite cut-resistant yarn contains no acrylic fiber.

2. (Original) The composite cut-resistant yarn of claim 1, wherein said at least one wire strand has a diameter between about 0.0013 inch and 0.0036inch

3. (Original) The composite cut-resistant yarn of claim 1, wherein said at least one fiberglass strand has a denier of from about 50 to about 1200.

4. (Original) The composite cut-resistant yarn of claim 1, further comprising a second non-metallic, non-high performance fiber cover strand wrapped around said at least one non-metallic non-high performance fiber cover strand in a second direction opposite that of said at least one non-metallic non-high performance fiber cover strand direction.

5. (Previously Presented) The composite cut-resistant yarn of claim 1, wherein said first non-metallic, non high performance fiber cover strand is a material selected from the group consisting of polyester, polyester/cotton blends, nylon, wool, and cotton.

6. (Previously Presented) The composite cut-resistant yarn of claim 4, wherein said second non-metallic, non high performance fiber cover strand is a material selected from the group consisting of polyester, polyester/cotton blends, nylon, wool, and cotton.

7. (Original) The composite cut-resistant yarn of claim 1, wherein said core further comprises a second fiberglass strand, parallel or twisted with one or both of said at least one fiberglass strand or said at least one wire strand.

8. (Original) The composite cut-resistant yarn of claim 1, wherein said core further comprises a second wire strand, parallel or twisted with one or both of said at least one fiberglass strand or said at least one wire strand.

9. (Original) The composite cut-resistant yarn of claim 1, wherein said at least one non-metallic non-high performance fiber cover strand is wrapped around said core at a rate of from about 6 to about 13 turns per inch.

10. (Original) The composite cut-resistant yarn of claim 1, wherein said at least one non-metallic non-high performance fiber cover strand has a denier of from about 50 to about 1200.

11. (Original) The composite cut-resistant yarn of claim 1, wherein said at least one wire strand is wrapped with a sheath of a non-metallic non-high performance fiber strand.

12. (Original) The composite cut-resistant yarn of claim 4, further comprising a third non-metallic non-high performance fiber cover strand wrapped around the combination of said core and said first and second non-metallic non-high performance fiber cover strands, in a third direction opposite to the second direction.

13. (Original) The composite cut-resistant yarn of claim 1, wherein the yarn or any portion thereof has been subjected to at least one treatment selected from the group consisting of antistatic treatments, antimicrobial treatments, treatments to provide radiation absorption, dyeing and combinations thereof.

14. (Previously Presented) A cut and abrasion resistant fabric formed primarily of a composite cut-resistant yarn comprising:

a. a core comprising at least one fiberglass strand and at least one wire strand of diameter sufficient to provide cut resistance, wherein said at least one fiberglass strand and said at least one wire strand are parallel to one another or twisted about one another and wherein only the core of the yarn contains metal; and

b. at least one non-metallic non-high performance fiber cover strand wrapped around said core in a first direction,

wherein said composite cut-resistant yarn contains no acrylic fiber.

15. (Original) The cut and abrasion resistant fabric of claim 14, wherein said at least one wire strand has a diameter between about 0.0013 inch and 0.0036 inch.

16. (Original) The cut and abrasion resistant fabric of claim 14, wherein said at least one fiberglass strand has a denier of from about 50 to about 1200.

17. (Original) The cut and abrasion resistant fabric of claim 14, further comprising a second non-metallic, non-high performance fiber cover strand wrapped around said at least one non-metallic non-high performance fiber cover strand in a second direction opposite that of said at least one non-metallic non-high performance fiber cover strand direction.

18. (Previously Presented) The cut and abrasion resistant fabric of claim 14, wherein said first non-metallic, non high performance fiber cover strand is a material selected from the group consisting of polyester, polyester/cotton blends, nylon, wool, and cotton.

19. (Previously Presented) The cut and abrasion resistant fabric of claim 17, wherein said second non-metallic, non high performance fiber cover strand is a material selected from the group consisting of polyester, polyester/cotton blends, nylon, wool, and cotton.

20. (Original) The cut and abrasion resistant fabric of claim 14, wherein said core further comprises a second fiberglass strand, parallel or twisted with one or both of said at least one fiberglass strand or said at least one wire strand.

21. (Original) The cut and abrasion resistant fabric of claim 14, wherein said core further comprises a second wire strand, parallel or twisted with one or both of said at least one fiberglass strand or said at least one wire strand.

22. (Original) The cut and abrasion resistant fabric of claim 14, wherein said at least one non-metallic non-high performance fiber cover strand is wrapped around said core at a rate of from about 6 to about 13 turns per inch.

23. (Original) The cut and abrasion resistant fabric of claim 14, wherein said at least one non-metallic non-high performance fiber cover strand has a denier of from about 50 to about 1200.

24. (Original) The cut and abrasion resistant fabric of claim 14, wherein said at least one wire strand is wrapped with a sheath of a non-metallic non-high performance fiber strand.

25. (Original) The cut and abrasion resistant fabric of claim 17, further comprising a third non-metallic non-high performance fiber cover strand wrapped around the combination of said core and said first and second non-metallic non-high performance fiber cover strands, in a third direction opposite to the second direction.

26. (Original) The cut and abrasion resistant fabric of claim 14, wherein said fabric is in the form of a member selected from the group consisting of aprons, gloves, arm shields, jackets and fencing uniforms.

27. (Original) The cut and abrasion resistant fabric of claim 26, wherein said fabric is in the form of a glove.

28. (Original) The cut and abrasion resistant fabric of claim 14, wherein the yarn or any portion thereof has been subjected to at least one treatment selected from the group consisting of antistatic treatments, antimicrobial treatments, treatments to provide radiation absorption, dyeing and combinations thereof.

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EVIDENCE APPENDIX

None.

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RELATED PROCEEDINGS APPENDIX

None.